

U.S. Application No. 09/543,844

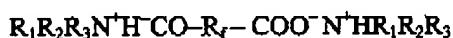
Attorney Docket No. 09792909.0305

AMENDMENTS TO THE CLAIMS:

1. (Previously Amended) A disc-shaped optical recording medium, comprising:
a support having at least two major surfaces;
a recording portion formed on one of the major surfaces of the support for recording signals
thereon;
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a light transmitting layer formed of one of a polycarbonate sheet and a UV light curable resin, on
the recording portion, said light transmitting layer having a thickness t of 10 to 177 μm ;
wherein the light transmitting layer comprises a surface that is configured to receive and transmit
illuminating light to the recording portion to record and/or reproduce signals; and
a surface layer formed of an amine salt compound held on the surface of the light transmitting
layer, wherein the amine salt compound is a compound of perfluoropolyether having terminal carboxylic
groups, represented by the chemical formulas (1) and/or (2):



(formula 1)



(formula 2)

where R_f denotes a perfluoropolyether group and R_1 , R_2 and R_3 denote hydrogen or a hydrocarbon group;

wherein a surface resistance of that side of the optical recording medium having the amine salt is not larger than $10^{13} \Omega$; and

wherein the dynamic frictional coefficient of that side of the optical recording medium having the amine salt is not higher than 0.3.

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U.S. Application No.: 09/543,844

Atty. Docket No. 09792909.0305

2. (Previously Amended) The optical recording medium according to claim 1, wherein the terminal carboxylic groups are represented by both formula 1 and formula 2, and wherein at least one of R₁, R₂ and R₃ in the formulas (1) and (2) is a long-chain hydrocarbon having 10 or more carbon atoms.

3. (Canceled)

4. (Previously Amended) The optical recording medium according to claim 1, wherein the light transmitting layer satisfies the relationship:

$$|\Delta t| \leq 5.26 \times (\lambda/NA^4) \mu\text{m},$$

where Δt is thickness variation of the light transmitting layer and NA and λ are the numerical aperture and the wavelength of the optical recording medium.

5. (Previously Amended) The optical recording medium according to claim 1, wherein a surface hardness of that side of the optical recording medium having the amine salt is not less than H in terms of pencil hardness.

6. (Canceled) .

7. (Canceled)

8. (Previously Amended) The optical recording medium according to claim 1, wherein a light-transmitting surface layer is formed between the light transmitting layer and the amine salt compound.

9. (Previously Amended) The optical recording medium according to claim 8, wherein the light-

U.S. Application No.: 09/543,844

Atty. Docket No. 09792909.0305

transmitting surface layer is formed of an inorganic material.

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10. (Previously Amended) The optical recording medium according to claim 9, wherein the inorganic material is one of SiNx, SiC, and SiOx.

11. (Previously Amended) The optical recording medium according to claim 9, wherein the light-transmitting surface layer is formed by at least one of sputtering and spin-coating and has a thickness of 1 to 200 nm.

12. (Previously Amended) The optical recording medium according to claim 8, wherein the light-transmitting surface layer is formed of an electrically conductive inorganic material.

13. (Previously Amended) The optical recording medium according to claim 12, wherein the inorganic material is at least one of indium oxide and tin oxide, either alone or in composition.

14. (Previously Amended) The optical recording medium according to claim 12, wherein the light-transmitting surface layer is formed by at least one of sputtering and spin coating to a thickness of 1 to 200 nm.

15. (Previously Amended) The optical recording medium according to claim 8, wherein the light-transmitting surface layer is formed of an organic resin.

16. (Previously Amended) The optical recording medium according to claim 15, wherein the

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U.S. Application No.: 09/543,844

Atty. Docket No. 09792909.0305

light-transmitting surface layer is formed by spin coating to a thickness of 0.1 to 10 μm .

17. (Previously Amended) The optical recording medium according to claim 15, wherein the light-transmitting surface layer is formed of an organic resin admixed with powders of oxides of at least one of metals In, Sn, and Zn, and wherein the light-transmitting surface layer is formed by spin coating to a thickness of 0.1 to 100 μm .

18. (Previously Amended) The optical recording medium according to claim 15, wherein a surface tension of the light-transmitting surface layer is set to a value that is smaller than a critical surface tension of the light transmitting layer.

19. (Previously Amended) The optical recording medium according to claim 15, wherein a moisture absorption ratio of the light-transmitting surface layer is set to be higher than a moisture absorption ratio of the light transmitting layer.

20. (Previously Amended) The optical recording medium according to claim 8, wherein the light-transmitting surface layer is electrically conductive.

21. (Previously Added) The optical recording medium according to claim 1, further comprising a skew correcting member formed on a second of said two major surfaces of said support, said second of said two major surfaces being disposed on a side opposite to a side of said support on which said light transmitting layer is disposed.

22. (Previously Added) The optical recording medium according to claim 21, wherein said skew

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U.S. Application No.: 09/543,844

Atty. Docket No. 09792909.0305

correcting member is formed by coating and curing a UV curable resin.

23. (Currently Amended) The optical recording medium according to claim 22, wherein a disk skew margin of the optical disc is less than or equal to $84.115(\lambda/NA^3/t)$;
wherein t is a thickness of the light transmitting layer, and NA and λ are a numerical aperture and a wavelength, respectively, of the optical recording medium.

24. (Previously Added) The optical recording medium according to claim 1, wherein the optical disc is one of a replay only disc (ROM), an overwritable optical disc, and a write-once optical disc.

25. (Previously Added) The optical recording medium according to claim 1, wherein said support comprises a first substrate and a second substrate bonded together.

26. (Previously Added) The optical recording medium according to claim 1, wherein said two major surfaces of said support include a recording layer and a light transmitting layer bonded to one another.

27. (Previously Added) The optical recording medium according to claim 1, wherein said support includes a first recording layer formed thereon, an intermediate layer formed on said first recording layer, a second recording layer formed on said intermediate layer, and said light transmitting layer formed on said second recording layer.

28. (Previously Added) A disc-shaped optical recording medium, comprising:
a support comprising a first substrate and a second substrate bonded together and having at least

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U.S. Application No.: 09/543,844

Atty. Docket No. 09792909.0305

two major surfaces;

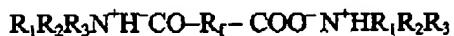
a recording portion formed on one of the major surfaces of the first substrate and on one of the major surface of the second substrate for recording signals thereon;

a light transmitting layer formed on the recording portion of the first substrate and of the second substrate, wherein the light transmitting layer has a thickness t of 10 to 177 μm , and comprises a surface that is configured to receive and transmit illuminating light to the recording portion to record and/or reproduce signals; and

a surface layer formed of an amine salt compound having a predetermined hardness and held on the surface of the light transmitting layer, wherein the amine salt compound is a compound of perfluoropolyether having terminal carboxylic groups, represented by the chemical formulas (1) and/or (2):



(formula 1)



(formula 2)

where R_f denotes a perfluoropolyether group and R_1 , R_2 and R_3 denote hydrogen or a hydrocarbon group;

wherein said surface layer has a thickness of 1 to 200 nm, and a dynamic frictional coefficient equal to 0.3 or less.